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Supply Chain Management at 21

The Hard Road to Adulthood

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Management at a major consumer products company knew that to make an important merger work, the company would have to integrate its supply chain with that of its new partner. In fact, the significant savings promised by the merger would not be possible without combining the two supply chains, which have the task of moving products from the raw material stage, through the manufacturing process, all the way to the customers' hands.

The company analyzed the two supply chains, looking at both distribution and sales. This effort resulted in an integration program that involved every division of the combined company and generated substantial change. Acquisitions were made to improve the scale of the new company's distribution operations. Distribution itself was realigned so that a single distributor served each market. Each distributor deployed an exclusive sales force to sell only the combined company's products.

In just the first year of implementation, the newly merged company saved more than $100 million. The exclusive distributor sales forces put far more emphasis on the company's products in the marketplace, driving an immediate 10% market share gain. Competitors were soon racing to catch up.

The success of this effort underscores the power of Supply Chain Management (SCM) when it is viewed not as an isolated function within a corporation, but as an embedded, cross-functional capability designed to unify and rationalize otherwise incongruent parts of a dispersed organization. This example, though, is the exception, not the rule. While SCM officially reached "adulthood" this year—21 years after Booz Allen's Keith Oliver first coined the term—it continues to fall short of its substantial promise. A survey recently conducted by Booz Allen points to the reasons the discipline has underdelivered, suggesting that top management needs to take a far broader view of Supply Chain Management, deepen its own involvement in the design and ongoing guidance of the function, and take a more realistic view of what technology can—and cannot—do.

Supply Chain Management is a highly complex undertaking that involves multiple functional areas of an organization, including procurement (purchasing) of raw materials, transportation (logistics) throughout the manufacturing process, inventory (warehousing), and distribution. It also includes the process of forecasting demand, and ideally will tie in with sales and marketing programs as well. With responsibility for moving products all the way from mine to driveway or farm to refrigerator, SCM can deliver powerful results—reducing costs, boosting revenues, and increasing customer satisfaction and

The Birth of Supply Chain Management

On June 4, 1982, the *Financial Times* ran an article by Arnold Kransdorff on "Booz Allen's rather grandly titled supply chain management concept." Keith Oliver, a Senior Vice President with Booz Allen, had coined the phrase, and this was the first time it was used in the public domain.

In more than 30 years with Booz Allen, Mr. Oliver has undertaken boardroom level assignments across the total value chain, with a particular emphasis on supply chain strategy and management control. These have covered overall industry supply chains, from material procurement and purchasing through all aspects of the manufacturing processes, as well as distribution and the marketplace interfaces of demand capture and customer service. More recently he has focused on the applicability of many of these underlying supply chain concepts to service businesses.

Mr. Oliver is currently based in the U.K. for Booz Allen, although he works on a pan-European and transatlantic basis.

brand equity by improving on-time delivery and product or service quality.

Yet overwhelmingly, senior executives at large companies worldwide believe SCM has failed to live up to the promise during its first two decades. The Booz Allen survey, conducted in the fourth quarter of 2002, sought to explain why SCM has failed to achieve all its promise of the 1980s, when it took the management world by storm. The majority of survey respondents are heads of manufacturing, purchasing, or logistics (38%) or members of general management (18%). The survey results are based on 196 responses to a questionnaire. (See "Methodology" for further details.)

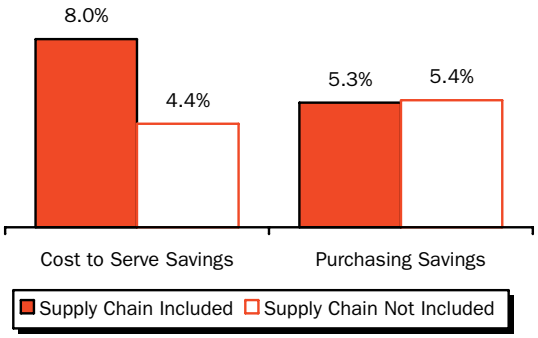
Among its conclusions, the survey found:

- In organizations where Supply Chain Management is part of the overall business strategy—and, therefore, a CEO-level agenda item—annual savings improvements in the "cost to serve customers," a broad measure of manufacturing costs, were nearly double those of firms where SCM responsibility resided lower in the organization, 8.0% versus 4.4%.
- Companies willing to consider steps as significant as reorganizing the supply chain itself when appropriate (also known as "breaking constraints") achieve savings in two key cost measures that are 36% and 55% greater than companies willing to make adjustments only within the existing supply chain structure.
- Nearly half (45%) of survey respondents said their supply chain Information Technology (IT) solutions have failed to live up to expectations, suggesting that for Supply Chain Management to reach its full potential, technology alone is not the answer.

High-Level Leadership

Supply Chain Management today requires strong leadership from the top, perhaps more than ever before. Without guidance and oversight from the CEO and the company's full leadership team, the supply chain's performance often does not live up to expectations: Our survey found that in companies where responsibility for SCM resides below senior management, annual savings in the cost to serve customers are just 55% of what they are when SCM is a component of the overall business strategy (see Exhibit 1, page 3). The cost to serve customers comprises all expenses a company incurs when "serving the

Exhibit 1
Annualized Cost Performance by Degree of Supply Chain Emphasis in Overall Business Strategy



Source: Booz Allen Hamilton

customer," including all aspects of the supply chain (from procurement to distribution) as well as marketing and manufacturing costs. This broad cost measure also includes salaries and administrative expenses.

At most companies today, Supply Chain Management tends to be pushed down the leadership hierarchy. Typically managed through its fragmented components—including procurement, transportation, distribution, and inventory—SCM is rarely considered part of a company's overall business strategy and, thus, is not usually included in the strategic planning process. For example, procurement and transportation may well be managed in separate functional departments. It often will not involve sales and distribution.

Despite the big benefits in reducing the cost to serve customers, senior management involvement in SCM does not improve the savings in purchasing, according to our survey. This finding is not altogether surprising, because purchasing is a narrower part of a company's cost base, including only the procurement costs for and price of raw materials. Because procurement departments are designed (and measured according to their ability) to reduce purchasing costs, it is reasonable to assume that this effort would move forward regardless of the degree to which SCM and corporate strategy are integrated.

However, responses to the follow-up questionnaire did show purchasing savings improving substantially (5.9% versus 5.0%) for companies at which the CEO is personally engaged in setting the supply chain agenda. Raising Supply Chain Management to the CEO level clearly has an impact on both cost measures.

While important, senior leadership alone is not sufficient to produce an optimal SCM program. The survey suggests that managing the supply chain from a central point within the organization—whether an individual or a group that reports to the CEO—also has a significant impact on the broadest measure of costs, the cost to serve customers. Again, most likely for the same reasons cited earlier, the narrower measure of purchasing savings comes in flat (see Exhibit 2).

The value of this centralization, of course, is in large part coordination. For example, if demand forecasting determines that because of changing consumer tastes Product A is going out of style among a key customer group, a centralized SCM function can quickly move to adjust, cutting back on procurement for Product A's raw materials and reducing inventory, perhaps by combining a slower manufacturing cycle and discount marketing. Such an approach allows the centralized SCM team to offer clear direction from the top, using data and knowledge from all points within the supply chain.

Exhibit 2
Annualized Cost Performance by Degree of Centralization

Source: Booz Allen Hamilton

Taking a Broad Approach to SCM

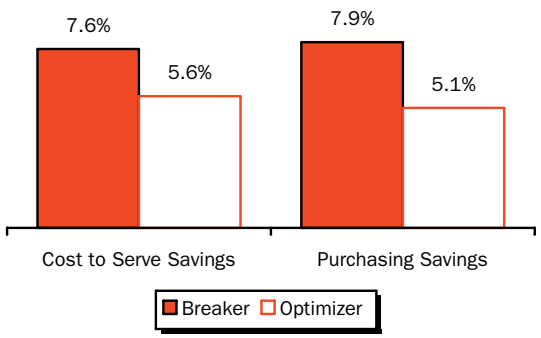
Supply Chain Management, as mentioned earlier, is a highly complex undertaking, tying together numerous functions across the organization. When management is willing to take a broad approach to SCM across the enterprise—to the point where the very structure of the supply chain is reevaluated when necessary—greater cost savings are achieved, the survey shows. This finding is in contrast to management teams that are willing to make improvements only to the existing supply chain structure (see Exhibit 3).

For example, a narrow SCM approach ("optimizing within constraints") to falling demand for Product B might be to simply reduce purchases of the raw materials used for Product B, and let the rest of the chain adjust to the reduction. A broader approach ("breaking constraints") might be to reduce procurement and inventory of Product B, keep manufacturing running at 85% of capacity by increasing production of Product C—which happens to use a similar manufacturing process—and switching distributors to those with better knowledge of the Product C marketplace.

Unlike the results of SCM within overall business strategy and with the use of centralized leadership, the increased savings generated by a broad supply chain approach holds true for both savings in the cost to serve customers (7.6% versus 5.6%) and the narrower measure of purchasing savings (7.9% versus 5.1%). These statistics are logical, as improvements to the supply chain as a whole are likely to improve performance in individual areas as well as across the entire organization.

Exhibit 3

Annualized Savings for Constraint Breakers versus Optimizers Within Constraints



Source: Booz Allen Hamilton

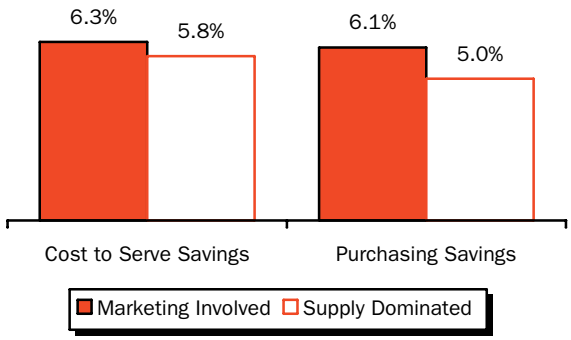
Of course, managers who look at their supply chains with the broadest possible vision must be constantly vigilant about any changes in the marketplace, raw materials prices, and the like. They must be willing to periodically revisit decisions and strategies to make sure they remain current and optimal. Having a central decision-making point with CEO involvement makes this process much easier.

In a related finding, the survey suggests that Supply Chain Management programs tend to perform best when both the supply and demand sides of the business are represented. Companies with a balanced approach that incorporates both the demand side (marketing, sales) and the supply side (manufacturing, distribution, and purchasing) outperform companies where the SCM program is dominated by the demand side of the business alone.

The survey shows annual cost to serve customer savings of 7.2% for companies where both the supply and demand sides are involved in the SCM decision-making process, as opposed to 5.8% savings in the cost to serve customers where the demand side dominated Supply Chain Management. Purchasing savings also show an improvement, though less dramatic. Balanced companies reported purchasing savings of 6.2%, compared to 5.4% for demand side dominated businesses. These data demonstrate some unusual geographic variations. North American companies, for example, showed better cost to serve customer savings for demand-driven SCM efforts (6.4% versus 4.0%); in both South Korea and the Nordic countries demand-driven programs performed best in purchasing savings. One explanation might be that in some areas

Exhibit 4

Annualized Cost Performance by Marketing and Sales Involvement in Supply Chain Planning



Source: Booz Allen Hamilton

and industries where the majority of companies compete primarily on price, demand-driven SCM may have a stronger impact on savings.

Marketing involvement in supply chain planning meetings was also found to be a contributor to improvements in both the cost to serve customers and purchasing savings (see Exhibit 4). Again, there were some geographic variances in these data. North American and Nordic companies reported little difference in purchasing savings, regardless of whether marketing was involved in planning. In the U.K., purchasing savings are significantly higher when marketing and sales are not involved.

Technology: No Panacea for SCM

Every year, it seems, there's a new "breakthrough technology" for the supply chain. Several years ago it was Enterprise Resource Planning (ERP) software, a management tool that gathers information across the organization (procurement, inventory, manufacturing, and distribution) to aid management in decision-making. Today, the hot technology is radio-frequency ID tags, which allow for the automated, real-time tracking of inventory.

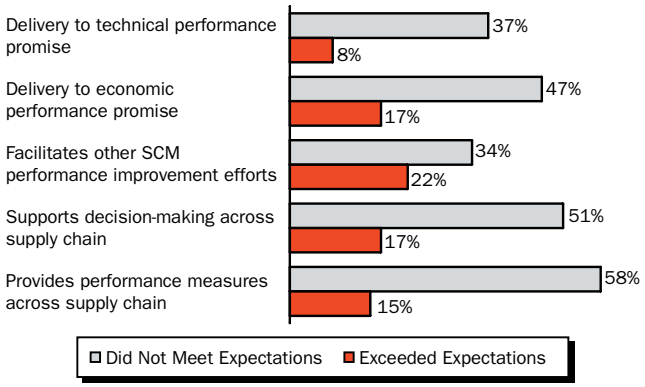
The truth—perhaps, a somewhat sad truth for Information Technology vendors—is there is no way to manage one's supply chain with technology alone.

In fact, despite spending of $19 billion annually on supply chain IT solutions, according to IDC (2002), 45% of respondents to the Booz Allen survey report that their IT solutions are failing to meet expectations. On all measures of IT systems performance, survey respondents indicated that the solutions do not meet expectations significantly more often than they exceed them (see Exhibit 5). This finding is generally true across geographic regions.

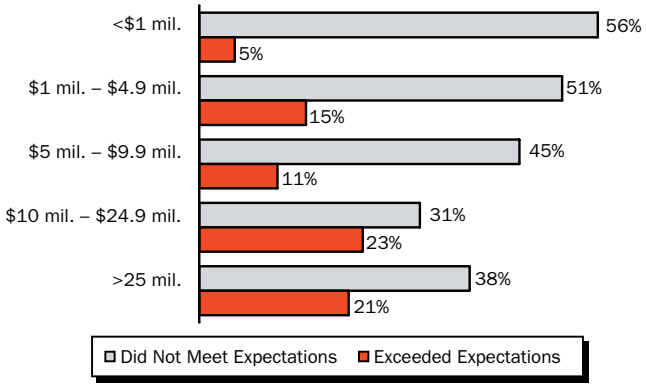
Regionally, another consistent finding is that respondents' greatest disappointment is the inability of their IT investment to provide performance measures across the entire supply

Exhibit 5

Performance of Supply Chain IT Solutions Against Expectations



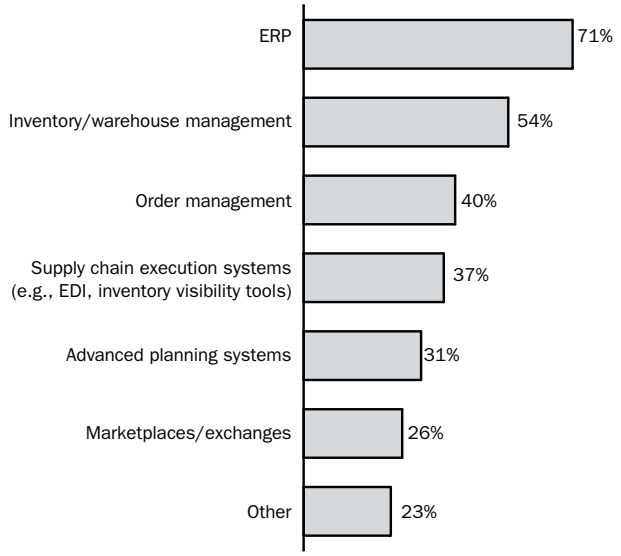
Average Not Meeting and Exceeding Expectations by Size of System Spend Over Three Years



Source: Booz Allen Hamilton

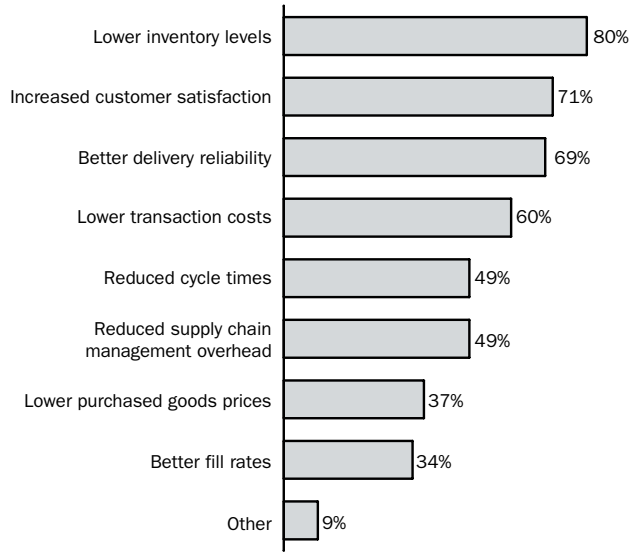
Exhibit 6

Supply Chain Systems Investment Choices



Source: Booz Allen Hamilton

Primary Benefits Expected From Supply Chain Systems Investments



Source: Booz Allen Hamilton

chain. However, for non-U.K. European companies and in Nordic countries specifically, the biggest disappointment is the inability of IT solutions to support decision-making across the supply chain. Running counter to the respondents as a whole are South Korean companies, of whom 43% reported their supply chain IT investments exceeded expectations.

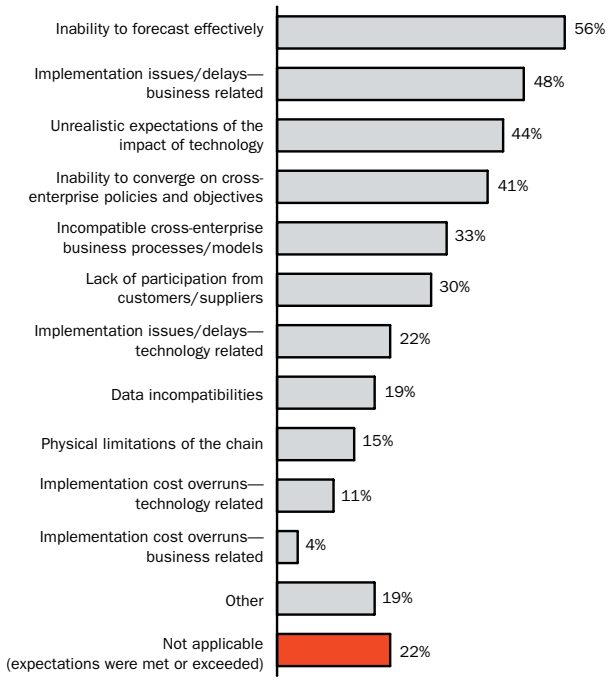
The survey does demonstrate some overall improvement in satisfaction with increased program spending.

Taken together, these results suggest that technology is simply an enabler, and SCM managers need more than IT solutions to improve their supply chains. For example, the widespread use of the Internet provided great hope for IT supply chain solutions. There was a belief that the mountains of data that could be generated across the supply chain with the Internet's help would automatically enable managers to make better SCM decisions. Not surprisingly, this tactic failed. The reason is there is simply too much data overwhelming and confusing the decision-making process. Without human intervention, the data proved to be simply information and not a useful tool.

An ERP or advanced planning system can be an important tool in any SCM program—and, in fact, is the most commonly used supply chain solution (see Exhibit 6). ERP, however, cannot take the place of a manager looking at the supply chain broadly across the organization, identifying the operational strategies that are most appropriate, and then determining how to use IT systems more effectively. For example, if the marketing department learns from studying consumer preferences that Product D is about to go out of fashion and Product E is becoming hot, the supply chain manager can input that data into the SCM system and adjust the chain accordingly. The software itself could not make that adjustment, as it would not have had the information and perspective to do so.

The ability to accurately forecast demand, described in the example above, is viewed by survey respondents as a major failing of SCM information technology solutions. In fact, the data show that the inability to forecast effectively is

Exhibit 7
Reasons for Expectations Not Being Met (% Respondents)



Source: Booz Allen Hamilton

the primary reason (56%) for systems failing to perform as expected (see Exhibit 7).

"Herculean" SCM Efforts Rewarded

When companies focus on SCM and put real effort into the process, the survey suggests that the results are often tangible. Companies making the biggest commitment to improving their Supply Chain Management outperform those companies where the effort is no more than incremental.

Respondents who classified their SCM efforts as "significant" or "Herculean" reported annual purchasing savings 26% higher than those with lesser levels of commitment ("incremental," "aspirational," or even "nonexistent"). Those companies with the higher levels of commitment reported savings of 6.3% versus 5.0% for the lesser committed. These data are consistent across geographies. Improvement in the cost to serve customers was a smaller but still tangible 9%, with those reporting "significant" or "Herculean" effort outperforming the other group, 6.3% to 5.8%. This finding suggests that effort alone does not have as large an impact on this broader measure of cost savings, but improvement in this area requires other factors to be in place, such as the proper supply chain leadership structure and the appropriate use of technology.

In terms of best practices, the top 10% of respondents in terms of cost savings performance had a much greater focus than the rest of respondents on several areas, such as the use of annual time horizons for supply chain improvement targets and the use of e-sourcing in both generating orders and developing contracts (see Exhibit 8).

Exhibit 8
Focus of Best Practice Companies versus Others

	Top 10%	Others	% Difference
More likely to use annual (year on year) time horizons for supply chain improvement targets	36%	10%	260%
Use e-sourcing to generate orders (% of orders by value)	36%	15%	140%
Use e-sourcing to make contracts (% of contracts by value)	19%	8%	138%
Spent more on supply chain IT solutions in past three years ($10 mil. or more)	60%	32%	88%
Customers share demand forecasts	46%	32%	44%
Make more effort to improve supply chains	57%	41%	39%
Rationalize the tail of suppliers	62%	45%	38%
Make an explicit link between revenue growth targets and cost targets	57%	44%	30%
Involve marketing and sales in supply chain planning meetings	73%	58%	26%
Make explicit delivery promises to customers	94%	79%	19%
Have more frequent supply chain planning meetings (daily and weekly meetings)	50%	43%	16%

Source: Booz Allen Hamilton

Methodology

Survey results were based on 196 valid surveys returned in the mail and on a Web site during the fourth quarter of 2002. Thirty-five of these respondents also answered four additional questions in a follow-up survey sent by e-mail. One-fifth of the total respondent base (18%) is in general management and 38% are heads of manufacturing, purchasing, or logistics. Supply chain directors comprise 5% of the sample, and "CXOs" (CEOs, CFOs, and COOs) comprise another 19% of the sample.

More than a third (37%) of the respondents are based in North America, 26% are from Europe, 19% are from Asia Pacific, and 18% from Latin America. Automotive, aviation, and defense companies make up 15% of the sample; consumer products, retail, and agricultural companies are 29%; industrial and technology companies are 34%; and chemical, oil, and utility companies are 8%.

One in seven respondent companies (14%) have less than US$100 million in annual revenues, and 28% have between US$100 million and US$499 million in revenues. Another 14% are between US$500 million and US$999 million. One-fourth (28%) is between US$1 billion and US$4.9 billion. Another 16% have US$5 billion and above in annual revenues.

What Booz Allen Brings

Booz Allen Hamilton has been at the forefront of management consulting for businesses and governments for more than 80 years. Booz Allen combines strategy with technology and insight with action, working with clients to deliver results today that endure tomorrow.

With 12,000 employees on six continents, the firm generates annual sales of $2.2 billion. Booz Allen provides services in strategy, organization, operations, systems, and technology to the world's leading corporations, government and other public agencies, emerging growth companies, and institutions.

To learn more about the firm, visit the Booz Allen Web site at www.boozallen.com. To learn more about the best ideas in business, visit www.strategy-business.com, the Web site for **strategy+business,** a quarterly journal sponsored by Booz Allen.

Booz Allen Hamilton has helped clients design and better operate their supply chains for three decades—beginning even before Keith Oliver actually invented the term—and has performed hundreds of client engagements across all major industries as well as for government agencies.

The firm's SCM efforts include work in all functional areas across the client's organization, including distribution, manufacturing, purchasing, and sales. Its approach includes analyzing organization, business processes, and information technology and designing a solution according to client needs. Booz Allen believes in delivering tangible performance improvement fast, and building clients' capabilities to ensure that the results endure.

As a general management consulting firm with deep operations strategy and technology expertise, including solution-independent systems development and implementation, Booz Allen is uniquely positioned to deliver enduring results from Supply Chain Management engagements.

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